

► Colorado 2005–2006 School Immunization Survey

UPDATE



Colorado Department
of Public Health
and Environment

IMMUNIZATION PROGRAM

Colorado 2005–2006 School Immunization Survey

Colorado Board of Health rules pertaining to the immunization of students attending school require that a child entering kindergarten have 5 diphtheria/tetanus/pertussis (DTaP) shots, 4 polio shots, 2 measles/mumps/rubella shots (MMR), 3 hepatitis B shots and 1 varicella shot or history of having had varicella. A Certificate of Immunization in the school file is also required.

► Methods

To determine the number of children entering kindergarten in Colorado who were up to date, a random sample of 57 schools was drawn. Local or state health department staff audited each child's immunization record. Information collected for children included age; gender; race; ethnicity; type of immunization document such as Certificate of Immunization, military record

or other similar documents; vaccines administered with administration date; exemptions for medical, personal or religious reasons; immunization staff and the time they are on site; and the country of birth.

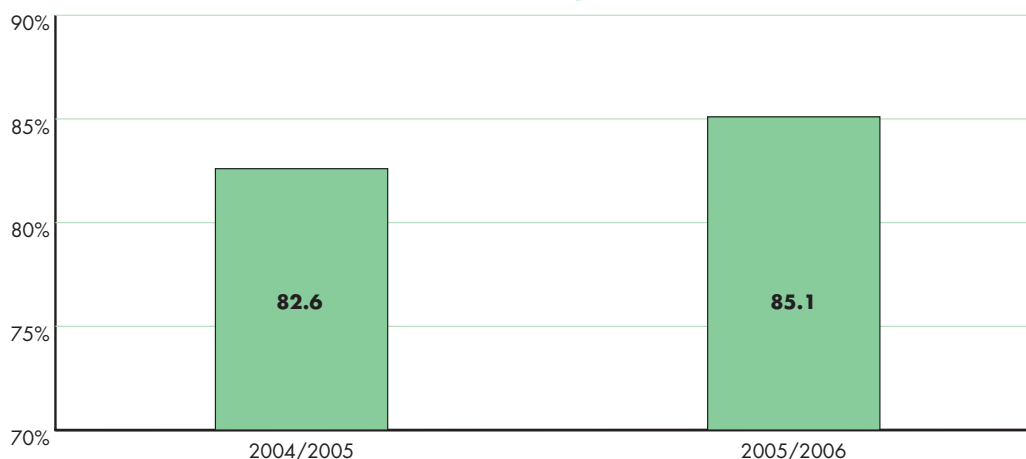
This report will update the 2004–2005 School Immunization Survey Report.

► Immunization Coverage

In compliance with the school regulations was defined as being up to date for all required immunizations or having taken a valid exemption. The percentage of kindergartners in com-

pliance with the school law increased from 82.6 in the 2004–2005 school year to 85.1 in the 2005–2006 school year (Figure 1).

Figure 1. Percentage of Kindergartners in Compliance with School Regulations, Colorado School Survey 2004–2006*



*Statistically significant increase $p < .05$

For the 2005–2006 school year, 80.4% of children entering kindergarten were up to date for

■ 5 DTaP or 4 with the 4th on or after the 4th birthday

■ 2 MMR

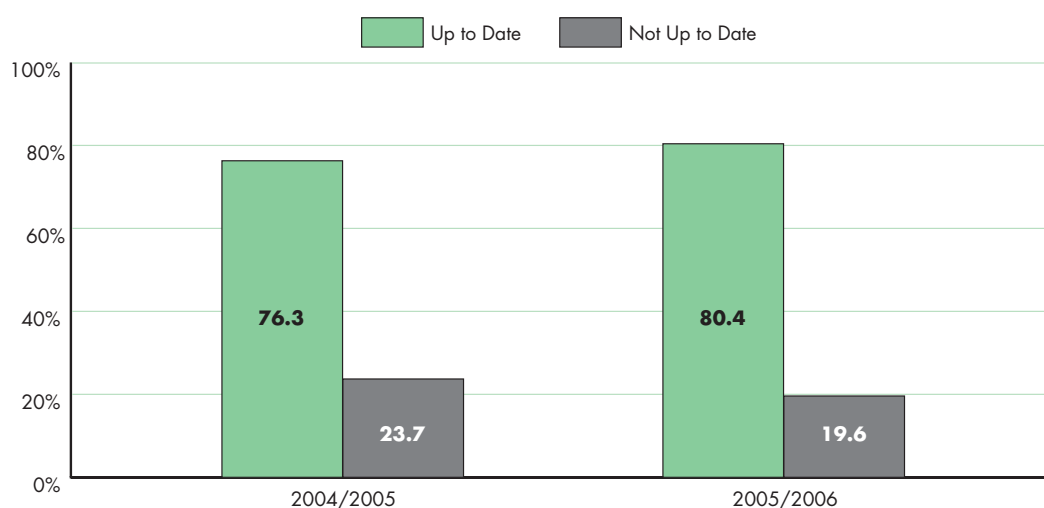
■ 4 Polio or 3 with the 3rd on or after the 4th birthday

■ 3 Hepatitis B

■ 1 Varicella or a history of disease

This compares to 76.3% of kindergartners who were up to date in the 2004–2005 school year (Figure 2).

Figure 2. Percentage of Kindergartners Up to Date by Year of Survey, Colorado School Survey 2004–2006*



*Statistically significant increase $p < .05$

Table 1 shows that while individual vaccine coverage levels were above 85%, the series

coverage rate was less. This is similar to the results of the National Immunization Survey.

Table 1. Up to Date Status By Vaccine, Colorado School Survey 2005–2006

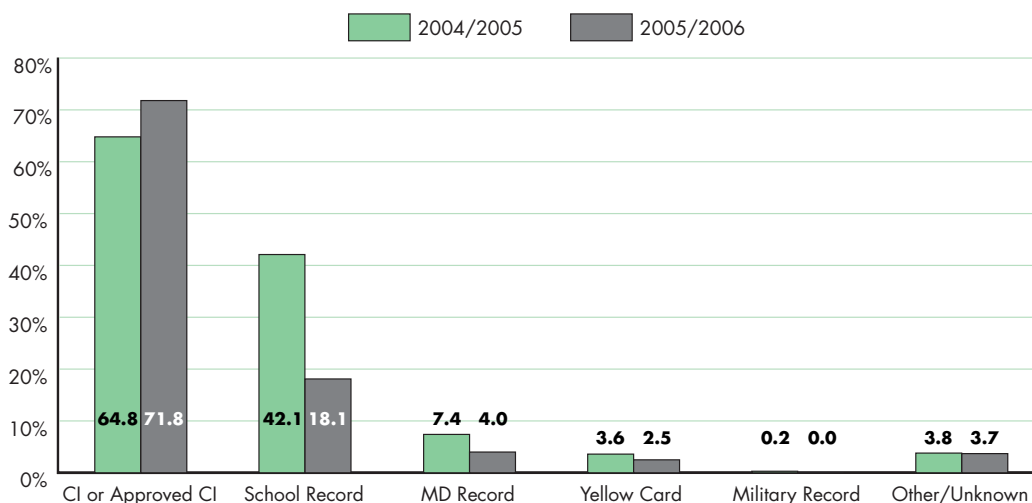
	5 DtaP or 4 with 4 th on or after the 4 th Birthday	2 MMR	4 Polio or 3 with 3 rd on or after the 4 th Birthday	3 Hep B	1 Varicella or History of Disease	Series Coverage
Colorado						
Up to Date at School Entry	89.6%	86.3%	90.5%	93.7%	93.2%	80.4%
Not Up to Date at School Entry	10.4%	13.7%	9.5%	6.3%	6.8%	19.6%

► Immunization Documents

For kindergartners starting school in 2005–2006, 71.8% had the required Certificate of Immunization (CI) or an approved alternate in their school file (Figure 3). When the Certificate of

Immunization was not available, immunization status was calculated using shot data available from the other types of school records listed in Figure 3.

Figure 3. Percentage of Immunization Documents in School File, Colorado School Survey 2004–2006



► Exemptions

4.6% of kindergartners had exempted from one or more vaccines. 13.5% of the kindergartners were not up to date on their required immu-

nizations, but had no exemption noted in their school record. 15 or 1.4% of the children had no immunization records in their file (Table 2).

Table 2. Percentage of Children Up to Date and with Exemptions, Colorado School Survey 2005–2006

Exemptions	n	%
Up to Date	854	80.4%
Medical	1	0.1%
Religious	3	0.3%
Personal	16	1.5%
In Process	1	0.1%
Exemptions for One or More Vaccines but Not All	29	2.7%
Not Up to Date with No Exemption	143	13.5%
No Records	15	1.4%
Total	1062	100.0%

Table 3 lists the number and percentage of exemptions claimed by children who were **not** up to date by vaccine. In general, most children who were **not** up to date had no exemption

listed in the school record. For these children, there was no information in the school file as to why this child was not up to date for the required school immunizations.

Table 3. For Children NOT Up to Date, Percentage with Exemptions by Vaccine, Colorado School Survey 2005–2006

	DTaP		MMR		Polio		Hepatitis B		Varicella	
	n	%	n	%	n	%	n	%	n	%
Medical	2	1.8%	2	1.4%	2	2.0%	1	1.5%	1	1.4%
Religious	3	2.7%	3	2.0%	3	3.0%	3	4.5%	5	6.9%
Personal	25	22.7%	26	17.8%	25	24.7%	23	34.3%	21	29.2%
In Process	7	6.4%	6	4.1%	5	5.0%	1	1.5%	3	4.2%
No Exemption Noted	58	52.8%	94	64.4%	51	50.5%	24	35.8%	27	37.5%
No Records Available	15	13.6%	15	10.3%	15	14.8%	15	22.4%	15	20.8%
Total	110	100.0%	146	100.0%	101	100.0%	67	100.0%	72	100.0%

Table 4 excludes children who had taken an exemption, and lists the reasons why children

were **not** up to date for each vaccine.

Table 4. Excluding Children with Exemptions, Reasons Why the Child was Not Up to Date by Vaccine and Region, Colorado School Survey 2005–2006

DTaP	n	%
No 5 th Shot and 4 th Shot Before the 4 th Birthday	45	77.6%
< 4 Shots	13	22.4%
Total	58	100.0%
MMR		
1 st Shot Before the 1 st Birthday	49	52.1%
< Minimum Interval Between Shots	7	7.5%
No 2 nd Shot	38	40.4%
Total	94	100.0%
Polio		
No 4 th Shot and 3 rd Shot Before the 4 th Birthday	51	100.0%
Hepatitis B		
< 3 Shots	24	100.0%
Varicella		
No Shot or History of Disease	27	100.0%

None of the other data collected during the school audit including the child's gender, race, ethnicity, country of birth, type of immuniza-

tion staff at the school, and the amount of time the immunization staff was onsite associated with up to date status.

► Conclusions

These data indicate that Colorado schools have significantly increased the percentage of kindergartners in compliance with the school law from 82.6 in the 2004–2005 school year to 85.1 in 2005–2006. The percentage of kindergartners who are up to date on the immunizations required for school entry also significantly increased from 76.3 in 2004–2005 to 80.4 in 2005–2006.

For the children who were not up to date at school entry, most had no information in their record as to why they were not up to date. They were not in process nor had they taken an exemption. The assumption would be that the

school believed these children to be up to date on their immunizations. In the event of a pertussis outbreak, susceptible children would not have been able to be correctly identified.

These data will be shared with state and local public health personnel, state and local school staff, and other interested individuals or organizations. The data will be used to increase the number of children who are up to date on their immunizations at school entry. A first step in this effort is the convening of a task force to develop methods for increasing the up to date immunization rate at school entry.

